

REMARKS

Claims 3-20 are pending in this application. By this Amendment, claims 1 and 2 are canceled; and claims 3-10, 12-14 and 17-20 are amended. Support for the amendments can be found in the specification at, for example, page 2, lines 2-4; page 6, lines 5-11; and previously presented claims 3, 6-9 and 18-19. No new matter is added. Applicants appreciate the Examiner's allowance of claims 11-14. Reconsideration of the application based upon the above amendments and the following remarks is respectfully requested.

I. Restriction Requirement

In reply to the September 11, 2007 Restriction Requirement, Applicant affirms the provisionally election of Group I, claims 1-14, 18 and 19, with traverse.

Applicants respectfully assert that the Restriction Requirement is improper under the rules of practice in PCT national phase applications. In PCT national phase applications, the Examiner may issue a Restriction Requirement if no unity of invention exists. In order to issue a Restriction Requirement, the Examiner must list the groups of claims corresponding to the inventions, and explain why the groups lack a unity of invention. That is, the Examiner must state why there is no "single general inventive concept." See MPEP §1893.03(d). Therefore, a single application may include one invention, or more than one invention if the inventions are "linked as to form a single general inventive concept." Id. (emphasis added). If multiple inventions are included in the application, they are deemed to be linked if there exists a "technical relationship among the inventions that involves at least one common or corresponding special technical feature." Id.

In the present application, the special technical feature which is common between the three groups of claims is the extreme ultraviolet light source target of the product claims. This product forms the product of Group I (claims 1-14, 18, and 19), and is included in the method of Group II (claims 15-17 and 20). Under the PCT rules of practice, unity of invention exists

because this special technical feature is common to both groups of claims, and therefore a Restriction Requirement is improper.

Because the Examiner has not properly demonstrated an absence of unity of invention under the rules, the Restriction Requirement is improper. Reconsideration and withdrawal of the Restriction Requirement are respectfully solicited.

It is respectfully submitted that the subject matter of all claims is sufficiently related that a thorough search for the subject matter of any one Group of claims would encompass a search for the subject matter of the remaining claims. Thus, it is respectfully submitted that the search and examination of the entire application could be made without serious burden. See MPEP §803 in which it is stated that "if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions" (emphasis added). It is respectfully submitted that this policy should apply in the present application in order to avoid unnecessary delay and expense to Applicant and duplicative examination by the Patent Office.

Applicants also respectfully request rejoinder of non-elected method claims 15-17 and 20. Where product and process claims are presented in the same application, Applicants may be called upon under 35 U.S.C. §121 to elect claims to either the product or process. MPEP §821.04. However, in the case of an elected product claim, rejoinder will be permitted when a product claim is found allowable and the withdrawn process claim depends from or otherwise includes all the limitations of an allowed product claim. Id. Since process claims 15-17 and 20 include all the limitations of allowable product claims 1-14, 18 and 19, the process claims 15-17 and 20 must be rejoined with the product claims. Applicants respectfully request withdrawal of the Restriction Requirement and rejoinder of claims 15-17 and 20.

Thus, withdrawal of the Restriction Requirement is respectfully requested.

II. Rejection Under 35 U.S.C. § 112

a. First Paragraph

The Office Action rejects claims 1-10, 18 and 19 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. By this Amendment, claims 1 and 2 are canceled and claims 3-10 and 18-19 are amended to obviate the rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

b. Second paragraph

The Office Action rejects claims 1-7, 18 and 19 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. By this Amendment, claims 1 and 2 are canceled, which obviates the rejection as to these claims.

Regarding claims 3-7, 18 and 19, although the heavy metal or heavy-metal compound can take several different crystal structures depending on the environmental conditions, only one crystal structure is possible under normal conditions (i.e. normal temperatures and normal pressures). For example, depending on the temperature and pressure, tin takes on one of the following crystal structures: α -phase (diamond structure); β -phase (tetragonal structure); and γ -phase (orthorhombic structure). However, tin will always take on the β -phase crystalline structure under normal conditions. Thus, tin will always have a known (the same) crystal density under normal conditions.

Thus, the description of claim 3, including the description of the crystalline structure and crystal density of the heavy metal or heavy metal compound, particularly points out and distinctly claims the subject matter, which Applicants regard as the invention. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Rejection Under 35 U.S.C. § 102(b)**a. Konakawa**

The Office Action rejects claims 1-5 and 8-10 as being anticipated by Konakawa et al. ("Konakawa"). Applicants traverse the rejection by canceling independent claim 1 and dependent claim 2, and amending claims 3-5 and 8-10. Additionally, Konakawa does not disclose every limitation of independent claim 3. Thus, the rejection is respectfully traversed.

Claim 3 specifies, *inter alia*, an extreme ultraviolet light source target that is made of heavy metal or a heavy metal compound, wherein the density of the heavy metal or the heavy-metal compound is 0.5% to 80% of a crystal density of the heavy metal or the heavy-metal compound.

Konakawa discloses a laser plasma x-ray source where the target is composed of particles mixed with a gas, where the particles consist of a metal coated onto an organic substance (Konakawa, abstract, paragraph 0035). Thus, Konakawa does not disclose an extreme ultraviolet light source target that is made entirely of a metal or a heavy-metal compound. Thus, Konakawa does not anticipate Applicants' independent claim 3.

Konakawa further discloses that the specific gravity of the metal can be made small by coating the metal onto a particle made of an organic substance such as polystyrene (Konakawa, abstract, paragraph 0035). In Konakawa, the specific gravity W represents the specific gravity of the particles contained in the target and does not represent the specific gravity of the entire target (Konakawa, paragraph 0036). Therefore, the specific gravity of Konakawa's entire target should represent the specific gravity of the particle and gas mixture, where the specific gravity of the gas and the mixing ratio of gas to particles should be accounted for in determining the specific gravity of the target. However, Konakawa does not disclose any information related to the density of the gas, the mixing ratio of gas to particles or the specific gravity of the entire target. Konakawa thus does not disclose that the density

of the heavy metal or the heavy-metal compound is 0.5% to 80% of a crystal density of the heavy metal or the heavy-metal compound. Thus, Konakawa does not anticipate Applicants' independent claim 3.

Claims 4-5 and 8-10 variously depend from claim 3. Because Konakawa fails to teach the features recited in independent claim 3, dependent claims 4-5 and 8-10 are patentable for at least the reasons that claim 3 is patentable, as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

b. Mochizuki

The Office Action rejects claims 1-2 and 6-9 as being anticipated by Mochizuki. Applicants traverse the rejection by canceling independent claim 1 and dependent claim 2, and amending claims 6-9 to depend from non-rejected claim 3. Thus, the rejection is moot.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

c. Choi

The Office Action rejects claims 1-6, 8-10, and 18 as being anticipated by Choi et al. ("Choi"). Applicants traverse the rejection by canceling independent claim 1 and dependent claim 2, and amending claims 3-6, 8-10, and 18. Additionally, Choi does not disclose every limitation of independent claim 3. Thus, the rejection is respectfully traversed.

Claim 3 specifies, *inter alia*, an extreme ultraviolet light source target that is made of heavy metal or a heavy metal compound, wherein the density of the heavy metal or the heavy-metal compound is 0.5% to 80% of a crystal density of the heavy metal or the heavy-metal compound.

At most, Choi discloses the use of pure Sn metal and its oxides as a soft x-ray projection lithography target (Choi, page 1616, col. 1, lines 1-3; page 1617, col. 1, lines 7-9).

However, Choi fails to disclose that the density of the heavy metal or the heavy-metal compound is 0.5% to 80% of a crystal density of the heavy metal or the heavy-metal compound. Thus, Choi does not anticipate Applicants' independent claim 3.

Claims 4-6, 8-10, and 18 variously depend from claim 3. Because Choi fails to teach the features recited in independent claim 3, dependent claims 4-6, 8-10, and 18 are patentable for at least the reasons that claim 3 is patentable, as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

d. Tillotson

The Office Action rejects claims 1 and 19 as being anticipated by Tillotson et al. ("Choi"). Applicants traverse the rejection by canceling independent claim 1 and amending claim 19 to depend from non-rejected claim 3. Thus, the rejection is moot.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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Attachment:

Petition for Extension of Time

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